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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,010	10/12/2004	Christoph Voss	PC10413US	6911

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EXAMINER

NGUYEN, VU Q

ART UNIT PAPER NUMBER

3683

DATE MAILED: 11/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/511,010

Applicant(s)

VOSS, CHRISTOPH

Examiner

Vu Q. Nguyen

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/12/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/12/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/12/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "23" and "24". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

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- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. The disclosure is objected to because of the following informalities:

in paragraph 0004, 7th sentence, "first valve member 7" should be --first valve closure member 7--,

in paragraph 0008, 4th and 5th sentences, "housing step 19" should be --housing step 24--,

in paragraph 0008, 2nd to last sentence, "valve sleeve 1" should be --valve housing 1--,

in paragraph 0010, 1st sentence, "second valve closure member 7" should be --second valve closure member 8--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitations "the electromagnetic excitation of a valve coil" and "the end of spring".

Claims 17 and 21 recite the limitation "the one end of the spring".

Claim 23 recites the limitations "the valve sleeve" and "the pressure compensating openings".

Claim 25 recites the limitation "the demands of automation".

There is insufficient antecedent basis for these limitations in the claims.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 14, 15, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5810330 (Eith et al.).

Regarding **claim 14**, Eith et al. disclose in Figs. 1 and 4, an embodiment of an electromagnetic valve, in particular for slip-controlled motor vehicle brake systems, comprising: a first and a second valve closure member (47, 37) arranged in a valve housing (21) and being able, in a coaxial arrangement in the valve housing (21), to open or close a first and a second valve passage (55, 36), including a pressure fluid inlet (29) and a pressure fluid outlet (30) opening into the valve housing (21), with the first valve closure member (47) being able to open or close the first valve passage (55) positioned in the second valve closure member (37) in response to the electromagnetic excitation of a valve coil (18), and with the second valve closure member (37) opening the second valve passage (36) under the influence of a spring (40) exclusively in the open position of the first valve passage (55) so that pressure fluid prevailing in the pressure fluid inlet (29) propagates to the pressure fluid outlet (30) along a flow route inside the valve housing (21) in which the first and the second valve passage (55, 36) are positioned, wherein the spring (40) is placed outside the flow route, to what end a stop (38) is arranged in the valve housing (21) remote from the flow route, and the end of spring (40) remote from the second valve closure member (37) being supported on said stop (38); **[claim 15]** the stop (38) is arranged above a transverse bore (27) opening into the valve housing (21) and being connected to the pressure fluid inlet (30); **[claim 24]** the valve housing (21) has a one-part design, and its open sleeve end remote from the second valve passage (36) is closed by a plug (20) acting as a magnet core and being configured as a cold-heading or extruded part; **[claim 25]** the second valve passage

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(36) is provided in a disc-shaped or sleeve-shaped valve seat member being configured as a turned part or cold-heading part in conformity with the demands of automation.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 16-18, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5810330 (Eith et al.) in view of U.S. Patent No. 5934766 (Feigel et al.).

Eith et al. disclose an electromagnetic valve as applied to claims 14, 15, 24, and 25 above. Eith et al. further disclose in Figs. 1 and 4 that **[claim 17]** the stop (38) is configured as a sleeve-shaped bowl in whose interior the one end of the spring (40) is supported on a bowl bottom (43); **[claim 18]** the stop (38) has a bowl edge remote from the bowl bottom (43) that is angled off in a radial outward direction and bears against the inside wall of the valve housing (21); **[claim 21]** the one end of spring (40) remote from the bowl bottom (43) bears against a bead of the piston-shaped second valve closure member (37) extending through an opening in the bowl bottom (43) towards a valve seat member (25) that is press-fitted below the transverse bore (27) into the valve housing (21); **[claim 22]** the second valve closure member (37) is manufactured as a turned part from free-cutting steel.

Eith et al. do not disclose expressly that **[claim 16]** the stop (38) is provided at a housing step of the valve housing (21) that is positioned above the transverse bore (27) and whose inside diameter is adapted to the outside diameter of the stop (38); **[claim 17]** the bowl bottom (43) is positioned with its outside surface on a housing step disposed above the transverse bore (27) in the valve housing (21).

Feigel et al. disclose in Fig. 1 a magnetically operated pressure control valve with a spring (28) supported by a stop (3). The stop (3) is provided at a housing step (10) of the valve housing (1) whose inside diameter is adapted to the outside diameter of the stop (3). Furthermore, the housing step (10) is disposed above a transverse bore (5) in the valve housing (1).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the electromagnetic valve as taught by Eith et al. to have the stop provided at a housing step above the transverse bore in the valve housing as taught by Feigel et al. The suggestion/motivation for doing so would have been to provide improved support for the stop and to provide an unblocked flow route as fluid flows through the pressure fluid inlet.

10. Claims 19, 20, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5810330 (Eith et al.) in view of U.S. Patent No. 5934766 (Feigel et al.) and further in view of another embodiment of the invention taught by Eith et al.

Eith et al. and Feigel et al. disclose an electromagnetic valve and a housing step

respectively, as applied to claims 16-18, 21, and 22 above.

Feigel et al. or Eith et al., in the embodiment of Fig. 4, do not disclose expressly the annular chamber or the pressure compensating openings of claims 19, 20, and 23.

Eith et al. disclose, in the embodiment of Fig. 1, that **[claim 19]** an annular chamber (26) is provided between the outside periphery of the sleeve-shaped bowl (38) and the inside wall of the sleeve-shaped valve housing (21), establishing a permanent pressure fluid connection between the pressure fluid inlet (29) and a magnet armature chamber (31) through pressure compensating openings (27, 32, 39) arranged in the valve housing (21) and in the sleeve-shaped bowl (38); **[claim 20]** the spring (40) extends vertically inside the annular chamber (26); **[claim 23]** the stop (38) and the valve sleeve (21) consist of a deepdrawn thin sheet, and that the pressure compensating openings (27, 32, 39) and the transverse bore (27) are punched or impressed therein.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the two electromagnetic valve embodiments of Figs. 1 and 4 taught by Eith et al. and to further modify the electromagnetic valve to include a housing step as taught by Feigel et al. The suggestion/motivation for combining the embodiments of Figs. 1 and 4 would have been to allow for improved pressure compensation and to allow for better fluid communication throughout the electromagnetic valve.

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11. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5810330 (Eith et al.) in view of U.S. Patent No. 5356211 (Fritsch).

Eith et al. disclose an electromagnetic valve as applied to claims 14, 15, 24, and 25 above. Eith et al. further disclose that **[claim 26]** the second valve closure member (37) is designed as a sleeve bowl made in a deepdrawing operation, the bowl bottom (43) accommodating the first valve passage (55) cooperating with the first valve closure member (47), and a transverse bore (27) extending through the valve housing (21) in a horizontal direction.

Eith et al. do not disclose expressly that **[claim 26]** close to the bowl bottom (43) the peripheral surface of the second valve closure member (37) is penetrated by transverse bores which are positioned in the horizontal plane of a transverse bore (27) connected to the pressure fluid inlet (29) to form a flow route with least possible rerouting.

Fritsch discloses in Fig. 1 a magnet valve with a second valve closure member (29) designed as a sleeve bowl in a deepdrawing operation (column 4, lines 32-33) that is penetrated close to the bowl bottom by transverse bores (33) positioned in the horizontal plane of a transverse bore (12) connected to a pressure fluid inlet.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the second valve closure member as taught by Eith et al. to have transverse bores penetrated close to the bowl bottom and to position the transverse bores in the horizontal plane of the transverse bore connected to the pressure fluid inlet as taught by Fritsch. The suggestion/motivation for doing so would

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have been to create a more direct flow route for the pressurized fluid to flow from the pressure fluid inlet to the pressure fluid outlet and increase efficiency.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 5474106 (Burgdorf et al.) discloses a solenoid valve for hydraulic brake units with slip control. U.S. Patent No. 5803556 (Weis et al.) discloses a stop (119) positioned on a housing step within a valve housing (10) (Fig. 1, column 2, lines 52-55). U.S. Patent No. 6435210 (Obersteiner et al.) and U.S. Patent No. 6755390 (Masuda et al.) disclose electromagnetic valves.

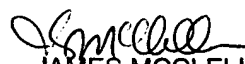
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Q. Nguyen whose telephone number is (571) 272-7921. The examiner can normally be reached on Monday through Friday, 8:30 AM to 5:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan can be reached on (571) 272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VQN


JAMES MCCLELLAN
SUPERVISORY PATENT EXAMINER
11/6/04